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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/024,846 | 12/18/2001 | Toshiaki Yoshihara | 1100.66059 | 1826 |

7590 12/08/2003

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EXAMINER

LEE, PATRICK J

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2878

DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/024,846

Applicant(s)

YOSHIHARA ET AL.

Examiner

Patrick J. Lee

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19 is/are allowed.
- 6) ☒ Claim(s) 1,4-6,8,9,11,12,14,15,17,18 and 20 is/are rejected.
- 7) ☒ Claim(s) 2,3,7,10,13 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. This action is in response to after final amendment filed November 12th, 2003.
2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
5. Claims 1, 4-6, 8-9, 11-12, 14-15, 17-18, & 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fergason 5,717,422 in view of Nonomura et al 6,115,021.

With respect to claims 1, 18, & 20, Ferguson discloses a display device comprising a light source (2), a liquid crystal display (3), and a computer control unit (5). Liquid crystal display (3) serves as a light-switching element that controls the light emitted from source (2) (see column 3, lines 57-65). Computer control unit (5) serves as both a light emission switching unit to control the switching performed by the liquid crystal display (3) and a control unit to control the synchronization of the light-emission timing and switching. However, Ferguson does not disclose the use of a frame number changing unit. Such is known and disclosed by Nonomura et al. Nonomura et al disclose an apparatus for driving a liquid crystal panel comprising a FLC panel (1) as a light switching element and a control unit, a data electrode driving circuit (22) as a light emission switching unit, and a temperature compensation circuit (35, 44). Temperature compensation circuit (35, 44) serves as a frame number changing unit to change the frame frequency related to the operation temperature of the FLC panel (see Abstract, lines 13-24). To modify the teachings of Ferguson by those of Nonomura et al would have been obvious because it would allow for the device to avoid problems with flicker, which would adversely affect image quality (see column 6, lines 25-33).

With respect to claim 4, Nonomura et al disclose a temperature sensor (42) to detect the temperature of the FLC panel (1) and send the information to temperature compensation circuit (44) to adjust the frame frequency or number.

With respect to claim 5, Nonomura et al disclose the LAT time (the inverse of frequency) to decrease as temperature increases. It is inherent then as the temperature increases, the frequency would then increase.

With respect to claims 6 & 8, FLC panel (1) is a liquid crystal display element.

With respect to claims 9 & 11, the use of a liquid crystal material with spontaneous polarization is not disclosed, but such is known in the art and would have been obvious in order to produce a clear display.

With respect to claim 12, 14-15, & 17, the FLC panel (1) taught by Nonomura et al constitutes an active element.

Allowable Subject Matter

6. Claims 2-3, 7, 10, 13, & 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claim 19 is allowable over the prior art.

8. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claims 2 & 19, Okumura et al 5,844,534 disclose a liquid crystal display apparatus. The apparatus comprises LCD panel (32), driving circuit (42, 36), moving/standstill picture detection circuit (52), and processing circuits (56, 38). However, Okumura et al do not disclose the changing of the number of frames but rather changes the number of interlaced scanning lines. As a result, independent claim is allowable and claim 2 and dependent claims 3, 7, 10, 13, & 16 are objected.

Response to Arguments

9. Applicant's arguments filed November 12th, 2003 have been fully considered but they are not persuasive.

With regards to the remarks on Fergason 5,717,422, it is disclosed that the display is used in a field sequential mode (see column 2, lines 5, 11-15; column 3, lines 57-65).

With regards to the remarks on Nonomura et al 6,115,021, Nonomura et al does not explicitly disclose the field sequential method, but the use of ferroelectric LCDs in a field sequential mode is well known in the art. See Knox 6,379,011 B1 (column 2, lines 52-67 and column 3, lines 1-4).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Lee whose telephone number is (703) 305-3871. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (703) 308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-9558.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Patrick J. Lee
Examiner
Art Unit 2878

PJL
November 25th, 2003


DAVID PORTA
RECEIVING PATENT EXAMINER
TECHNOLOGY CENTER 2800